

## REMARKS

In the Office Action, claims 42, 43, 59 and 63-72 were rejected. More specifically:

- The Office has objected to claim 43 for failing to provide proper antecedent basis;
- The Office has rejected claims 42-72 under 35 U.S.C. §112, for failing to particularly point out and distinctly claim the subject matter regarded as the invention;
- The Office has rejected claims 42, 43, 63-66 and 69-72 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,155,510 to Kaplan (“*Kaplan*”) in view of U.S. Patent Application Publication No. 2002/0138461 to Sinclair et al. (“*Sinclair*”);
- The Office has rejected claim 59 under 35 U.S.C. §103(a) as being unpatentable over Kaplan in view of Sinclair and in further view of U.S. Patent Application No. 2003/0083972 to Williams (“*Williams*”); and
- The Office has rejected claims 67 and 68 under 35 U.S.C. §103(a) as being unpatentable over Kaplan in view of Sinclair and in further view of U.S. Patent No. 4,114,027 to Slater et al. (“*Slater*”).

Claims 42, 59, 70 and 71 have been amended, and claims 73-79 have been added. No new matter has been added as a result of these amendments. New claims 73-79 find support in the specification in at least paragraphs [0003], [0005], [0061], [0293]-[0303]. For the reasons set forth below, Applicants request that the above-listed objections and rejections be withdrawn.

### Objections

The Office objected to the specification on the basis that it failed to provide antecedent basis for the phrase “neural networks” as used in claim 43. Applicants respectfully disagree. Neural networks are described in the specification in at least paragraphs [0055] (pg. 12) and [0076] (pg. 32), portions of which are reproduced below with emphasis added:

[0055] There are a variety of detection algorithms **228** which can be applied. The types of algorithms include, but are not limited to, link analysis, sequence matching, outlier detection, rule patterns, text mining, decision trees, and **neural networks**. . . Decision trees and **neural networks** are related approaches that examine sequence of events, behaviors, or activities using logical rules or specific networks well known by those skilled in the art.

[0076] Algorithms for link analysis, sequence matcher, outlier detection, rule pattern, text mining, decision tree, and **neural networks** are commercially available from a variety of vendors, including, but not limited to SAS Institute and their Enterprise Mining application, SPSS Inc. and their Predictive Analytics™ application, International Business Machines (IBM) and their DB2 Intelligent Miner™ application, Visual Analytics and their VisuaLinks™ application, and NetMap Analytics with their NetMap™ Link Analysis application with these various applications containing software and algorithm technologies.

Accordingly, Applicants request that objections associated with the specification as it relates to claim 43 be withdrawn.

#### Rejections Under §112

Claims 42-72 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particular point out and distinctly claim the subject matter regarded as the invention. Specifically, the Office asserts that the if clauses render these claims vague and indefinite because it is not clear how the claim is bounded. Claims 42, 70 and 71 have been amended to address the Office's recommendations. Accordingly, Applicants request that the §112 rejection associated with claims 42-72 be withdrawn.

#### Rejections Under 35 U.S.C. §103(a)

##### Claim 42

Independent claim 42 is nonobvious over the cited references because the cited references fail to teach or disclose at least the following limitations of claim 42:

- receiving, on a periodic basis, data from at least one source, wherein the received data comprises a plurality of transactions relating to securities trading and a

plurality of entities involved in securities trading, wherein the plurality of transactions and the plurality of entities are not predetermined to be related;

- applying the detection algorithm to identify common elements between a plurality of the transactions and a plurality of the entities in the received data to determine whether the common elements are collectively indicative of the behavior of interest; and
- determining, by a computing device, whether one or more relationships exist among the transactions and the entities that exhibit the common element.

*Kaplan* is directed to a system for predicting and forecasting stock prices. *Kaplan* at 4:21-25. The system in *Kaplan* compiles forecasts, for example the closing prices of the NASDAQ stock exchange for the following day, from multiple individuals and/or entities. *Id.* at 4:63-5:15. The system then compiles these individual forecasts to generate a collective forecast which it communicates back to the individuals and/or entities. *Id.*

In contrast, claim 42 is directed to a method of generating alerts by applying the detection algorithm to identify common elements between a plurality of the transactions and a plurality of the entities and analyzing a plurality of transactions and a plurality of entities to identify one or more possible relationships between the transactions and entities exhibiting the common elements.

*Kaplan* fails to disclose these limitations of claim 42. *Kaplan* does not disclose analyzing a plurality of transactions relating to securities trading. Rather, *Kaplan* discloses gathering a stock price forecast from multiple individuals or entities.

Moreover, *Kaplan* fails to disclose identifying common elements between the transactions and the entities. The *Kaplan* system is not concerned with determining whether commonalities exist among the individual stock forecasts and among the entities providing the forecasts. In addition, *Kaplan* fails to disclose determining whether a relationship exists among

the transactions and entities that exhibit the identified common elements. Instead, the *Kaplan* system aggregates the forecasts received from all entities without distinction.

Further, the system in *Kaplan* is not concerned with determining whether a relationship exists between the individuals and entities providing the forecasts and/or the forecasts themselves. *Kaplan* is only concerned with aggregating individual forecasts to generate a collective forecast that can be used to predict movement in stock prices.

*Sinclair* fails to resolve the deficiencies of *Kaplan*. *Sinclair* is directed to a system for analyzing player betting patterns for indications of problematic gambling behaviors. *Sinclair* at [0010]. For example, the *Sinclair* system may analyze a player's wagers to determine whether the player's bets are indicative of chasing (increasing wagers in response to a series of losses). *Id.*

As such, *Sinclair* analyzes actions that are predetermined to be related because they are performed by a single individual. In contrast, claim 42 requires analyzing a plurality of transactions relating to securities trading and a plurality of entities involved in securities trading. Moreover, claim 42 requires that these transactions and entities are not predetermined to be related.

For at least these reasons, claim 42 is nonobvious over *Kaplan* and *Sinclair*. Because claims 43-70 depend from and incorporate all of the limitations of independent claim 42, claims 43-70 are nonobvious over *Kaplan* and *Sinclair*. See MPEP §2143.03 (stating that if an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious). Accordingly, Applicants respectfully request that the rejections associated with claims 42-70 be withdrawn.

Claim 59

Applicants agree with the Office's assertion on page 9 of the Office Action that *Kaplan* and *Sinclair* fail to disclose the limitations of claim 59. However, Applicants disagree with the Office's assertion that *Williams* discloses these limitations.

*Williams* is directed to a method of issuing and managing investment instruments that represent a claim is secured by an investment fund. *Williams* at [0009]. Like *Kaplan* and *Sinclair*, *Williams* fails to teach or disclose determining whether a relationship exists among transactions that relate to securities trading and entities involved in securities trading that exhibit common elements. Moreover, *Williams* fails to teach or disclose a behavior of interest comprising rapid switching of one or more mutual funds. The cited portions of *Williams* (paragraph [0256]) merely describes a market-timing strategy, which involves switching money into a mutual fund when prices are expected to rise, and out of the mutual fund when prices are expected to fall. In contrast, claim 59 is directed to switching from one mutual fund to another mutual fund. Claim 59 has been amended to clarify this distinction.

Therefore, for at least the reasons set forth hereinabove, claim 59 is nonobvious over *Kaplan*, *Sinclair* and *Williams*. Accordingly, Applicants respectfully request that the rejections associated with claim 59 be withdrawn.

Claim 71

Independent claim 71 is nonobvious over the cited references because the cited references fail to teach, suggest or disclose at least the following limitations of claim 71:

- receiving data from at least one source, wherein the received data comprises a plurality of transactions relating to securities trading and a plurality of entities involved in securities trading, wherein the plurality of transactions and the plurality of entities are not predetermined to be related;
- determining, by a computing device, whether one or more relationships exist among the transactions and the entities that exhibit the common element; and

- if so, generating an alert informing a user of the related transactions and entities that exhibit the common elements.

For reasons similar to those set forth above with respect to claim 42, Applicants submit that independent claim 71 is nonobvious over *Kaplan* and *Sinclair*. Because claim 72 depends from and incorporates all of the limitations of independent claim 71, claim 72 is nonobvious over *Kaplan* and *Sinclair*. See MPEP §2143.03. Accordingly, Applicants respectfully request that the rejections associated with claims 71 and 72 be withdrawn.

#### New Claims 73-79

Claims 73-79 have been added and include additional features not found in the prior art of record.

All of the stated grounds of rejection have been properly traversed, accommodated or rendered moot. Applicant therefore respectfully requests that the USPTO reconsider and withdraw all presently outstanding rejections. There being no other rejections, Applicant respectfully requests that the current application be allowed and passed to issue.

If the Examiner believes for any reason that personal communication will expedite prosecution of this application, I invite the Examiner to telephone me directly.

**SUMMARY**

The Commissioner is hereby authorized to charge any additional fees which may be required for this Amendment and Response, or credit any overpayment, to deposit account no. 50-0436.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James M. Singer". The signature is fluid and cursive, with the first name "James" and last name "Singer" clearly distinguishable.

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Date: August 31, 2009